

Course Description

Software Engineering covers technical and non-technical (management) methods, techniques, and practices used to develop software-dominated systems. The course will cover the software development process; a survey of techniques and practices used throughout the software development process to improve quality, increase productivity, and reduce risk; and quality assurance related to dependable systems.

Textbooks and Readings

Software Engineering, A Practitioner's Approach, 6th Ed. R.S. Pressman, McGraw-Hill, 2005 (Required)
Software Engineering Book of Knowledge, www.swebok.org (Online Reference)
Rapid Development, Steve McConnell, Microsoft Press, 1996 (Recommended)

Selected readings from handouts and/or on reserve in the library or on the Internet may be assigned on a weekly basis through the course.

Course Objectives

- Define software development projects, roles, and practices
- Compare and contrast classical and agile development processes
- Identify and describe role and purpose of software engineering practices within and across the software development lifecycle
- Describe quality assurance important for all software projects
- Use knowledge about the software process and software engineering practices to select and justify approaches to use given a project, its teams, and its constraints.

Course Outline

Introduction to Software Engineering

- Week 1: Professional Software Development
 - Pressman: Chapters 1, 5, 6, 16, Section 32.7
- Week 2-3: Software Process
 - Pressman: Chapters 2-4

Quiz

Software Development Lifecycle

- Week 4-5: Analysis
 - Pressman: Chapters 6-8, 28
- Week 5-6: Design
 - Pressman: Chapters 9-12

Quiz

- Week 7: Construction
 - Pressman: Chapters 27, 29
- Week 8-9: Testing & Quality Assurance
 - Pressman: Chapters 13-15

Teams and Quality Management

- Week 9-10: People, Projects, & Quality Improvement
 - Pressman: Chapter 21-26

Quiz

Final Exam: Case Study

Grading	
	% of Grade
Individual Activities	45%
Case Study Final Exam	30%
Group/Class Participation	25%

About the Instructor
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Projects, Quizzes, Exams, Grades, and Related Requirements

Your academic performance on exams, personal and group project work, homework and quizzes, and class participation through out the quarter will determine your grade.

Individual Activities

Individual activities will consist of in-class work, homework assignments, and quizzes. Quizzes will focus on the comprehension of lecture and reading materials. Questions will be short answer with emphasis on definition, compare / contrast, and support / deny formats to assess your understanding these knowledge areas and their appropriateness in different projects.

Final Exam

The final exam will consist of a single case study that you will be responsible for developing a plan of the best software engineering practices to use for the project based on your limited depth understanding of the software engineering body of knowledge. Grading of the final exam will focus on the completeness and justification provided for software engineering practices to use for the project. You will be provided with several examples of case studies used in previous classes to use in group and class discussion.

Group and Class Participation

Many classes will include a group participation exercise that will require your involvement during that class session. Most group exercises will require brief class presentations and/or brief review documentation. The last week of class will be spent discussing case studies in more depth including formal presentations by each group. Your efforts within your group will be peer reviewed with comments for consideration in deciding your final participation grade.

Class Website

The class website is available via University of Washington Blackboard system: **bb.uwb.edu**. Lectures, discussion groups, and related class information can be found on the site. You will need to register to use the web site. Schedule changes may be announced only in class and not updated timely on the website.

Classroom Policies

Many students use notebook PCs, PDAs, tape recorders, and other equipment to improve their ability to take notes and understand class lectures and discussion. You may use this equipment in the classroom subject the following conditions:

1. All recordings and other media captured during class time are for *personal use only* and may not be sold, traded, or exchanged. Such use may constitute a violation of intellectual property laws.
2. Using electronic equipment for communicating and/or performing work not related to class activities disrupts not only your concentration but those around you and your instructor's. You may be asked to immediately turn off equipment and/or leave the classroom.

Academic Integrity

You are expected to provide original work based on your own effort for this course. You may not use case studies or past exams from this class as resource. You will be expected to participate as an equal member of a project team in any group projects. You will receive a zero for any exam or coursework for which you are discovered cheating, facilitating, fabricating, or plagiarizing. You may be referred to the University for further action.

Disability Accommodations

To request academic accommodations due to a disability, please contact **Disabled Student Services** (DSS) in the Library Annex, Room 106, (425) 352-5000, (425) 352-5303 (TDD). If you have a documented disability on file with the DSS office, please have your DSS counselor contact me and we can discuss accommodations you might need in class.

Inclement Weather Policy

Call **(206)-547-4636** (206-547-INFO) to see if University of Washington, Seattle, Bothell, and Tacoma campuses are open and operating.